

SECTION THREE:

Unintentional Injury Deaths

Unintentional injuries were responsible for the deaths of 217 Missouri children in 2001, representing 21% of all Missouri incident fatalities.

Unintentional injuries are the leading killer of children ages 1-17. Each year in the United States, approximately 7,200 children ages 14 and under are killed, and 50,000 are permanently disabled. More children, ages 1-17, die from unintentional injuries than from all childhood diseases combined. Injury is the leading cause of child hospitalization. For every child who dies from a preventable injury, 40 others are hospitalized and 1120 are treated in emergency rooms. (*Children's Safety Network*)

Motor Vehicle Fatalities

There were 127 motor vehicle fatalities among Missouri children in 2001 which represents 59% of all unintentional injury deaths.

“We use the term ‘crash’ instead of ‘accident’ because we want people to realize that when cars run into each other, or run off the road and hit something or crash into something it is almost always caused by driver error - it is seldom an ‘accident’”

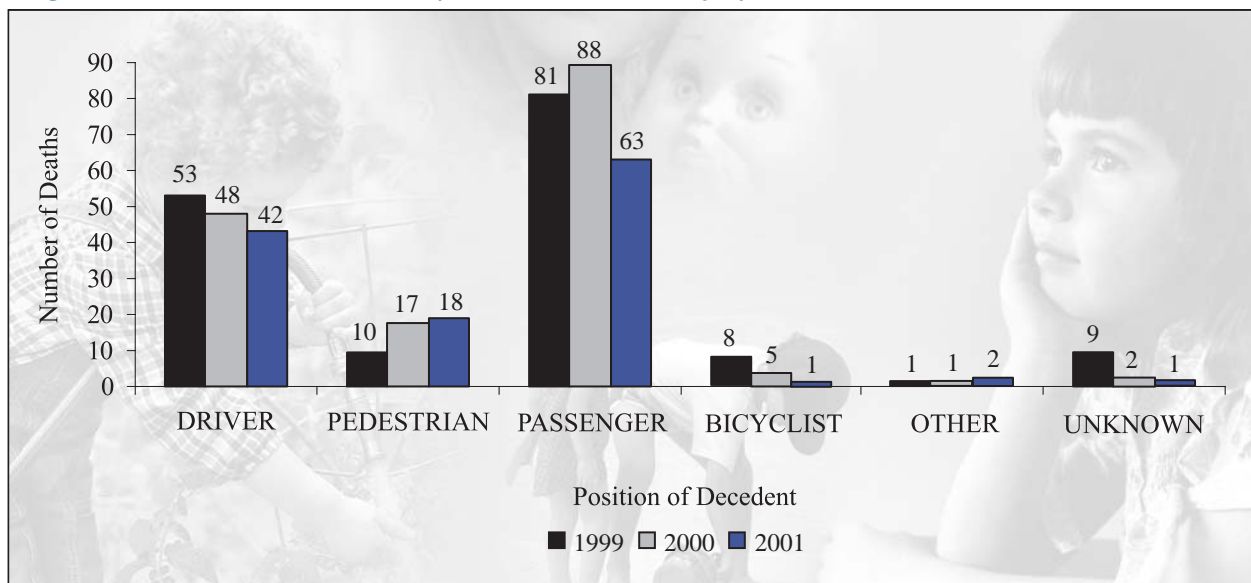
- Missouri State Highway Patrol

Motor vehicle crashes remain the leading cause of unintentional injury deaths among Missouri's children, ages 1-17. Motor vehicle fatalities include drivers and passengers of motor vehicles, pedestrians who are struck by motor vehicles, bicyclists and occupants of any other form of transportation. Of the **127** motor vehicle deaths among Missouri children in 2001, **107** (84%) were reviewed by county panels.

Figure 15. Motor Vehicle Fatalities by Sex and Race

Sex	1999	2000	2001	Race	1999	2000	2001
Female	53	63	52	White	149	143	108
Male	109	98	75	Black	11	16	18
				Other	1	2	1
	162	161	127		162	161	127

Figure 16. Motor Vehicle Fatalities by Position at Time of Injury



Motor Vehicle Fatalities as Reported on CFRP Data Forms

Type of vehicle			
Car	70	Other farm vehicle	0
Truck/RV/Van	31	All-terrain vehicle	3
Motorcycle	1	Semi/Tractor trailer unit	0
Bicycle	2	Other	2
Riding mower	0	Unknown	0
Farm tractor	0	Non-applicable	18

Conditions of road	
Normal	93
Loose gravel	7
Wet	14
Ice or snow	1
Other	3
Unknown	9

Restraint used		Primary cause of accident	
Present, not used	53	Speeding	31
None in vehicle	1	Carelessness	28
Used correctly	24	Mechanical failure	1
Used incorrectly	2	Weather	10
Unknown	20	Driver error	34
Not applicable	27	Other	13
		Unknown	10

Alcohol and/or other drug use	
Decedent impaired	6
Driver of decedent's vehicle impaired	6
Driver of other vehicle impaired	8
Not applicable	60
Helmet Used - Bicycle	
Helmet worn	2
Helmet not worn	3
Not applicable	116
Unknown	6

Driver and Passenger Fatalities

Representative Cases:

- **Children age 4 years and under should ride appropriately restrained in a child safety seat.**

A 3-year-old girl was riding unrestrained in the front seat of a car that was involved in a motor vehicle crash. The girl's fatal injuries were a direct result of not being properly restrained. The driver of the car was charged with child endangerment.

- **The most significant risk factors among teen drivers are inexperience, low rates of seatbelt use and alcohol.**

A 17-year-old male was the unrestrained passenger of a vehicle traveling at speeds in excess of 120 mph. The car left the road and rolled, ejecting the victim and causing massive injuries. Both the driver and passenger tested positive for a controlled substance.

One hundred five of the **127** motor vehicle deaths in Missouri in 2001 involved drivers and passengers. The National Center for Injury Prevention and Control lists two factors as most significant in contributing to motor vehicle related fatalities among children: (1) unrestrained children and (2) drunk drivers.

Unrestrained children refers to infants and toddlers who are not riding in properly installed car seats and older children whose seatbelts are not fastened. **Thirty-seven** of the child passenger fatalities in Missouri in 2001, were known to be riding unrestrained. **Six** of those were children age 4 and under. Missouri law requires restraint for children under age 4 and allows for primary enforcement, meaning that a police officer can stop and cite the driver solely for violation of the restraint law. The National Safe Kids Campaign reports that 40% of children age 4 and under ride unrestrained, placing them at twice the risk of death and injury as those riding restrained. The most common reasons restrained children are killed are misuse of child safety seats and premature graduation to safety belts. It is estimated that approximately 80% of children who are placed in child safety seats are improperly restrained.

Alcohol interferes with driving because it impairs the driver's mental and physical abilities. In 2001 the Missouri Department of Mental Health, Division of Alcohol and Drug Abuse released the results of a survey conducted in the spring of 2000. The survey included more than 10,000 students in grades 6, 8, 10, and 12 in public and private schools in Missouri. Results were alarming: "Alcohol use is so prevalent among Missouri youth that 8 of 10 high school seniors admitted last year to some use during their lifetimes and more than half said they had been drinking within the previous month." (Jefferson City News Tribune, June 10, 2001) The Missouri Youth Risk Behavior Survey 2001 revealed that 33% of youth surveyed admitted riding with a drinking driver during the month preceding the survey and 48% admitted drinking during the previous month; 34% reported episodic heavy drinking during the previous month.

According to the National Center for Injury Prevention and Control, the most significant risk factors among teenage drivers are inexperience, low rates of seatbelt use and alcohol. Inexperienced drivers lack the perception, judgment and decision-making skills that take practice to acquire. Missouri's graduated licensing for teens took effect in January 2001. Graduated licensing systems are designed

Teens are required to graduate through three licensing stages before receiving an unrestricted license. In states with GDL systems, teen fatality rates have been reduced as much as 43%. While it is not yet possible to assess the full impact of these new laws in our state, preliminary data appear positive. It is important to note, however, that graduated licensing must be combined with education for parents and teens about risks to teen-age drivers, including the dangers of underage drinking, speeding, inattention and seat belts.

Seatbelts are known to reduce the risk of a fatal motor vehicle injury by as much as 45%. There is a low rate of seatbelt use among teens. The 2001 Missouri Youth Risk Behavior Survey found that 19% of students reported that they never or rarely wore a seatbelt when riding in a car driven by someone else. **Seventy-nine** (62%) of motor vehicle fatalities among children in Missouri in 2001 were teenagers, age 15-17. **Forty-five** (57%) were known to be unrestrained at the time of the crash.

Pedestrian Fatalities

Representative Cases:

- **Young children require constant supervision.**

A 5-year-old girl was sent outside to play by herself while dinner was being prepared. An on-coming motorist struck the girl as she stepped out between two parked cars.

While on a family outing, a 6-year-old boy asked to go to the park while the adult took a nap. A short time later, the boy was struck by a truck as he attempted to cross the highway.

Of the **127** motor vehicle fatalities among children in Missouri, **18** were pedestrians. **Six** of those were age 4 and under; **6** were between the ages of 5 and 9.

The following is a summary of information provided by the National Safe Kids Campaign:

Children are particularly vulnerable to pedestrian death, because they are exposed to traffic threats that exceed their cognitive, developmental, behavioral, physical and sensory abilities. This is exacerbated by the fact that parents overestimate their children's pedestrian skills. Children are impulsive and have difficulty judging speed, spatial relations and distance.

Toddlers (ages 1 and 2 years) sustain the highest number of pedestrian injuries, primarily due to their small size and limited traffic experience. More than half of all pedestrian injuries involving toddlers occur when a vehicle is backing up. Young children are at increased risk of pedestrian death and injury in driveways and other relatively protected areas.

Children, age 5 through 9, are at the greatest risk from pedestrian death and injury. Children, ages 14 and under, are more likely to suffer pedestrian injuries in residential areas with high traffic volume, a higher number of parked vehicles on the street, higher posted speed limits, few pedestrian-control devices and few alternative play areas.

Practical, skills-based pedestrian safety training efforts have demonstrated improvements in children's traffic behavior. Environmental modifications are effective at reducing pedestrian-motor vehicle-related incidents.

Bicycle-related Fatalities

Representative Cases:

- **Children should always wear helmets when riding bicycles.**

A 10-year-old girl was riding her bike on the gravel road in front of her home. She was not paying attention and rode her bike in front of an oncoming car. She was not wearing a helmet at the time and died of massive head injuries.

Motor vehicle fatalities among Missouri children also include **2** bicyclists who died in 2001, when they were either struck by a motor vehicle or fell. Both suffered fatal injuries. Only **1** was reported to be wearing a helmet.

The single most effective safety device available to reduce head injury and death from bicycle crashes is a helmet. In the event of a crash, wearing a bicycle helmet reduces the risk of serious head injury by as much as 85% and the risk for brain injury by as much as 88%. Unfortunately, national estimates on helmet usage suggest that only 25% of children, ages 5-14, wear a helmet when riding. Helmet usage is lowest among children ages 11 to 14. (Safe Kids) The primary strategies to increase bike helmet use include education, legislation and helmet-distribution programs. (*National Center for Injury Prevention and Control*)

Prevention Recommendations:

For parents:

- Children, 12 years old and younger, should always ride appropriately restrained in the back seat of all passenger vehicles, particularly vehicles with airbags.
- Never allow children under age 12 to cross streets alone.
- Always model and teach proper pedestrian behavior.

For community leaders and policy makers:

- Community leaders should encourage enforcement of existing child restraint laws.
- Missouri lawmakers should strengthen child restraint laws by mandating the following:
 - Include children age 4 through 15 in the child restraint law, thereby making restraint use in the age group subject to primary enforcement.
 - Raise the penalty for violation of child restraint laws to at least \$100 and one driver's license point.
 - Remove the provision of the vehicle equipment regulations that states that if there are not enough safety belts for all passengers, they are not in violation for failure to use.

For professionals:

- Facilitate and implement programs that educate parents on appropriate restraint of children in motor vehicles, and provide child safety seats to those who do not have them, such as safety seat check-up events.
- Facilitate and implement programs that educate parents and children on helmet use, instructions on fitting helmets properly and events that provide helmets at little or no cost.

For Child Fatality Review Panels:

- Ensure that speed limits, and laws prohibiting driving while intoxicated, along with other traffic safety laws, are strictly enforced.

Resources and Links:

National Safe Kids Campaign www.safekids.org
National Center for Injury Prevention and Control www.cdc.gov/ncipc
Harborview Injury Prevention and Research Center <http://depts.washington.edu>
National Highway Transportation Safety Administration www.nhtsa.dot.gov
Stop the Knock www.mshp.state.mo.us (contact the appropriate headquarters)
Think First www.thinkfirst.org
Kids 'N Cars www.kidsncars.org

Fatalities Among Children Left Unattended In and Around Motor Vehicles*

Attention concerning child safety and motor vehicles has focused largely on protecting children as they ride in and on vehicles of all kinds, primarily motor vehicles on public roads. The Missouri CFRP reviews and collects data on motor vehicle fatalities among children as passengers and drivers, pedestrians and bicyclists. However, children who are unsupervised in or around motor vehicles that are not in traffic are at increased risk for injury and death.

The Centers for Disease Control (CDC) examined injuries and fatalities among children involved in nontraffic motor vehicle-related incidents from July 2000-June 2001. Nationally, an estimated 9,160 nonfatal injuries and 78 fatal injuries were documented for that period of time. Of the fatally injured children, most (82%) were age <4 years, were male and were near a home. The most common type of fatal incident was exposure to excessive heat inside a motor vehicle, followed by being backed over and being hurt when a child put a motor vehicle in motion.

Age of Children Left Unattended In and Around Motor Vehicles	
3 years	2
2 years	2
1 years	2
<1 year	1

A child left unattended in a vehicle is in danger of dehydration, injury, abduction and even death. In 2001, 7 Missouri children died because they were unsupervised in and around automobiles. All seven children were less than 4 years of age and all seven died of excessive heat exposure.

The CDC study recommended several areas for possible prevention, including education campaigns aimed at parents and caregivers that communicate the following: (1) Ensure adequate supervision when children are playing in areas near parked motor vehicles. (2) Never leave children alone in a motor vehicle, even when they are asleep or restrained. (3) Keep motor vehicles locked in a garage or driveway and keep keys out of children's reach.

Something We Can Do: “Not Even for a Minute” Campaign

Children's Trust Fund points out a child left alone in an automobile is a car accident that can be prevented. For additional information or to order education materials contact CTF at 573-751-5147 or visit the web site at www.ctf4kids.org.

Resources and Links:

CDC. Injuries and Deaths Among Children Left Unattended in or Around Motor Vehicles-United States, July 2000-June 2001. MMWR 2002;51:No.26.

Kids 'n Cars.....www.kidsncars.com

*This data is not included in other motor vehicle fatality data.



**Not even
for a minute!**

**Never leave a child
alone in a car.**

Left alone in a vehicle, even for a
short time, a child is in danger of:
dehydration • injury • abduction.

For more information call the
Children's Trust Fund at 573-751-5147
or visit our Web site at www.ctf4kids.org.

 **Children's
Trust Fund**
Missouri's Foundation for Child Abuse Prevention

Unintentional Suffocation/Strangulation

Unintentional Suffocation/Strangulation was the cause of 35 deaths of Missouri children in 2001, representing 16% of unintentional injury deaths.

Representative Cases:

- **The safest place for infants to sleep is in a standard crib, on their backs with no soft bedding.**

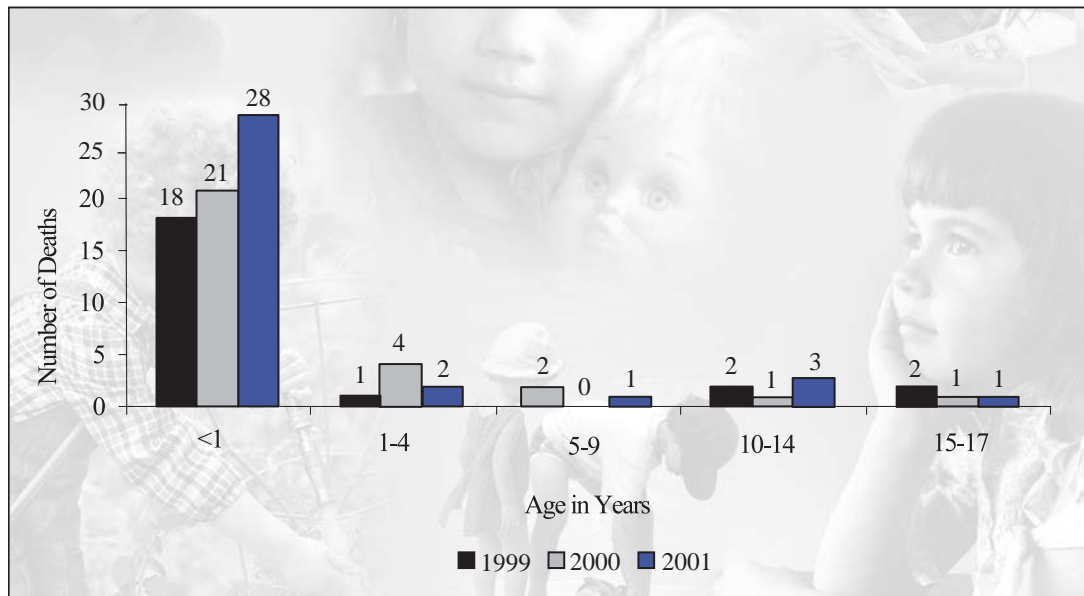
A 3-month-old male was sleeping on the couch with his father. The father woke up to find the victim wedged between his arm and the couch. This child died of accidental suffocation as a result of wedging.

After being congested for several days, a 6-month-old infant girl was put to sleep on her mother's chest. The mother awoke the next morning to find the baby lying face down on the bed. The baby died of accidental suffocation due to overlay.

A 6-week-old was sleeping with her mother and two older siblings. The infant was apparently pinned between the mother and a pillow used to keep the baby from rolling off the bed, resulting in unintentional suffocation.

The suffocation/strangulation deaths as reported in this section are unintentional. Suffocation/strangulation deaths may also be intentional, inflicted by others (homicide) or self-inflicted (suicide).

Obstruction of the airway (suffocation, strangulation and choking) is a leading cause of injury death in infants under the age of 1 year in Missouri and in the United States. These injuries occur when children are unable to breathe normally because food or objects block their internal airways (choking); materials block or cover their external airways (suffocation); or items become wrapped around their neck or exert pressure on their neck and interfere with breathing (strangulation). Children, especially those under age 3, are particularly vulnerable to airway obstruction death and injury due to the small size of their upper airways, their relative inexperience with chewing, and their natural tendency to put objects in their mouths. Additionally, infants' inability to lift their heads or extricate themselves from tight places puts them at greater risk. (National Safe Kids Campaign).

Figure 17. Unintentional Strangulation/Suffocation Deaths by Age**Figure 18. Unintentional Strangulation/Suffocation Deaths by Sex and Race**

Sex	1999	2000	2001	Race	1999	2000	2001
Female	9	12	18	White	19	22	26
Male	16	15	17	Black	6	5	9
	25	27	35		25	27	35

Of the **35** Missouri children who died in 2001 as a result of unintentional suffocation/strangulation, **28** (80%) were infants under the age of one year.

Sudden Unexpected Infant Deaths: Suffocation and Undetermined

Most infant deaths due to **suffocation** are directly related to an unsafe sleep environment. Many parents and caregivers do not understand the risks associated with unsafe sleeping arrangements. Infants can suffocate when their faces become positioned against or buried in a mattress, cushion, pillow, comforter or bumper pad or when their faces, noses and mouths are covered by soft bedding, such as pillows, quilts, comforters and sheepskins. In most cases of unintentional suffocation, the sleeping environment is such that most normal infants would not have been able to move themselves out of the unsafe circumstances.

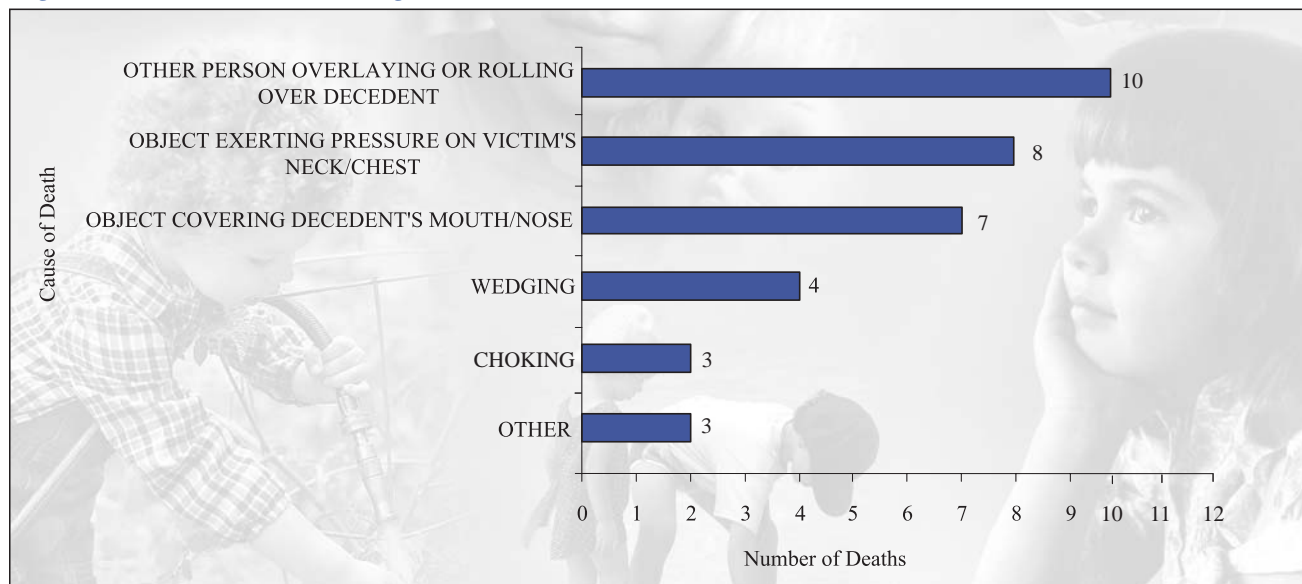
An **overlay** is a type of unintentional suffocation that occurs when an infant is sleeping with one or more persons (bed sharing with adults or older children) and someone rolls over on them. A suffocation due to overlay can be verified by one of the following means: (1) the admission of someone who was sharing the bed that they were overlying the infant when they awoke or (2) the observations of another person. Most infant deaths involving possible or suspected overlay are classified as **undetermined** cause because the actual positions of the infant and other person at the time of the death were not witnessed.

In some cases, even the most thorough and careful scene investigation and autopsy do not produce a definitive cause of death, because risk factors are present that are significant enough to have possibly contributed to the death. One such risk factor is an unsafe or challenged sleep environment. Recent studies of epidemiological factors associated with sudden unexpected infant deaths demonstrate that prone sleeping and the presence of soft bedding near the infant's head and face pose very strong environmental challenges by limiting dispersal of heat or exhaled air in the vast majority of cases. However, the extent to which such environmental challenges play a role in a particular sudden infant death often cannot be determined. Sudden unexpected infant deaths involving an unsafe sleep environment are classified as **undetermined** when unintentional suffocation is not conclusively demonstrated by the scene investigation.

Suffocation in Young Children

Young children can suffocate when they become entrapped in old refrigerators, chest freezers or similar confined spaces, or their faces become covered by plastic bags. Of the **35** Missouri children who died of unintentional suffocation/strangulation in 2001, **3** were young children, ages 1, 3, and 7, who were trapped inside a cedar chest. The cedar chest was self-latching and could not be opened from the inside. It was alleged that the children had been left alone all day while the parents were working and had apparently climbed into the cedar chest while playing.

Figure 19. Cause of Unintentional Strangulation/Suffocation Deaths



Prevention Recommendations:

For parents:

- Follow “Safe Bedding Practices for Infants” recommended by the American Academy of Pediatrics:
 - Place baby on his/her back on a firm, tight-fitting mattress in a crib that meets current safety standards.
 - Remove pillows, quilts, comforters, sheepskins, stuffed toys and other soft products from the crib.
 - Consider using a sleeper or other sleep clothing as an alternative to blankets, with no other covering.
 - If using a blanket, put baby at the foot of the crib. Tuck a thin blanket around the crib mattress, covering only as far as the baby’s chest.
 - Make sure your baby’s head remains uncovered during sleep.
 - Do not place baby on a waterbed, sofa, soft mattress, pillow, or other soft surface to sleep.
- Remove drawstrings from children’s clothing.
- Tie up or remove all cords for window coverings.

For community leaders and policy makers:

- Support legislation that requires improved product design, or removal of hazardous products from the market.

For professionals:

- Information about unintentional suffocation/strangulation hazards to young children, including unsafe sleep practices should be widely disseminated.
- Teach parents CPR and the Heimlich Maneuver for infants and young children.

For Child Fatality Review Panels:

- Report any child death that appears to involve a product hazard to the Consumer Product Safety Commission. The CPSC can also be accessed for product safety research assistance; contact STAT for assistance.

Resources and Links:

Consumer Product Safety Commissionwww.cpsc.gov
 National Safe Kids Campaignwww.safekids.org
 American Academy of Pediatricswww.aap.org
 Missouri Children’s Trust Fund, “Safe Crib-Safe Sleep” Campaign .www.ctf4kids.org
 Sudden Unexpected Infant Death: A Guide for
 Missouri Coroners and Medical Examinerswww.dss.state.mo/stat/index.htm

Fire/Burn Fatalities

Fire/Burn injuries were the cause of 13 Missouri child deaths in 2001, representing 6% of unintentional injury deaths.

Representative Cases:

- **Lighters, matches and other sources of fire should be kept locked away from children.**

Three siblings, ages 14 months, 2 and 5 years, were playing with a lighter and started a fire in their home. When attempts to put out the fire failed, the mother and all three children were trapped by the flames and overcome by smoke

- **Properly installed and maintained smoke detectors are effective in preventing fatalities.**

A 4-year-old girl and her male caretaker were taking a nap when fire started in the bedroom. The smoke detectors in the house were not in working order. Both died of smoke inhalation before fire fighters arrived.

- **Plan and practice several fire escape routes from each room of the home and identify an outside meeting place. Practicing an escape plan may help children who become frightened, and confused in a fire to escape to safety.**

An electric skillet started a fire in a home, blocking the main entrance. The family did not have an escape plan. A 6-year-old girl died in the fire when she became frightened, not realizing the back door was free to exit. She was found later hiding under her bed.

Each year in the United States more than 600 children ages 14 and under die, and nearly 47,000 are injured in fires. In Missouri **13** children died as a result of fire/burn injury in 2001; **6** of those children were under the age of 5. Fire and burn injuries are the third leading cause of unintentional injury deaths among Missouri children.

Children, especially those age 5 and under, are at the greatest risk from home fire-related death and injury and are more than twice as likely to die in a fire than the rest of the population. Young children have a limited ability to react promptly and properly to a fire; they are unable to act, or act irrationally. They may attempt to hide or run from adults attempting to rescue them. More than half the children under the age of 5 who die in home fires are asleep at the time of the fire. (*Safe Kids*)

Figure 20. Fire/Burn Deaths by Age

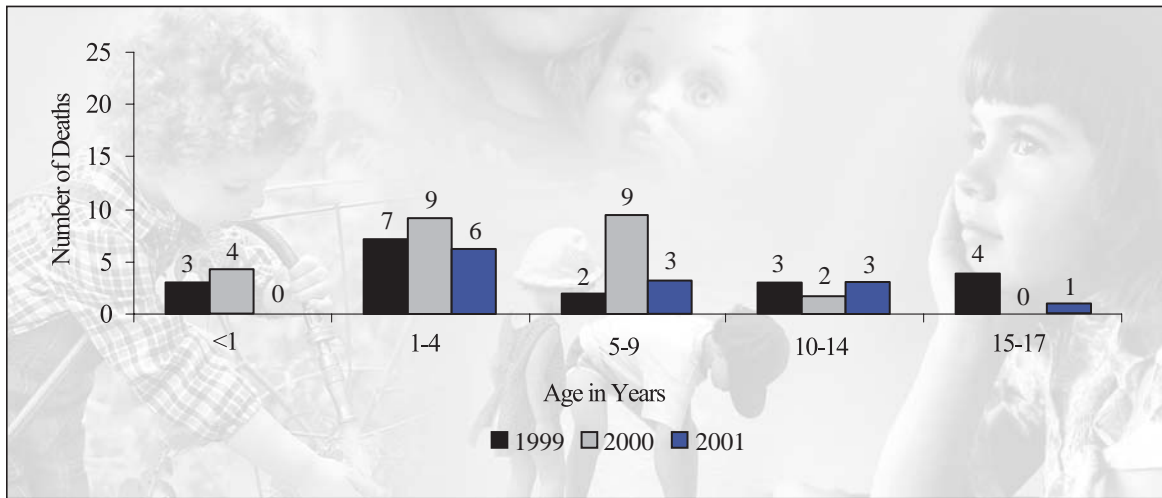
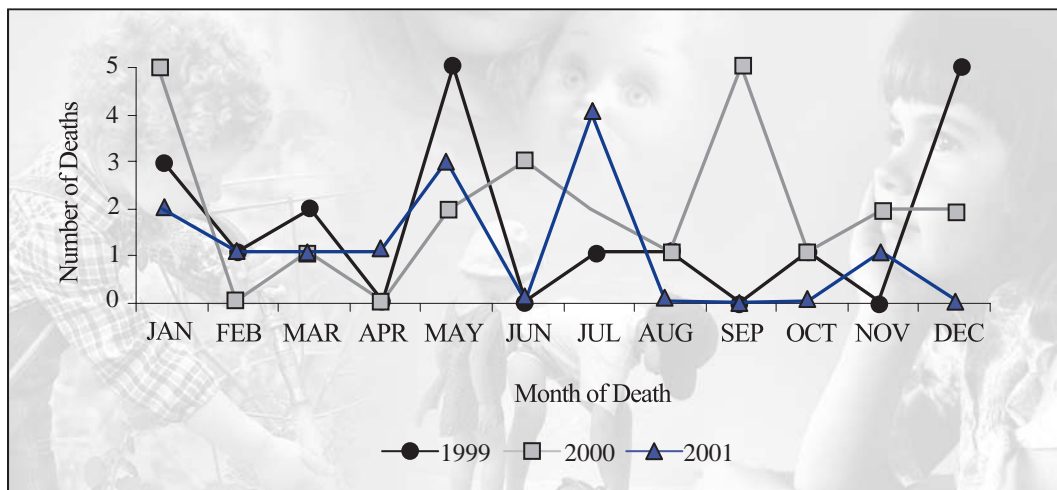


Figure 21. Fire/Burn Deaths by Sex and Race

Sex	1999	2000	2001	Race	1999	2000	2001
Female	6	12	3	White	10	16	11
Male	13	12	10	Black	9	8	2
	19	24	13		19	24	13

Residential fires and related fatalities tend to occur more often during cold-weather months, when the use of heating systems is at a peak.

Figure 22. Fire/Burn Fatalities by Month of Death



- In the United States, a working smoke alarm is not present in two-thirds of the residential fires in which a child is injured or killed. Smoke detectors were reported to be present in only **5** of the fatal Missouri fires reviewed by county CFRP panels in 2001. Approximately 90% of homes in the U.S. have a smoke alarm; however, these alarms are not always properly maintained.
- Children living in rural areas have a dramatically higher risk of dying in a residential fire. (*United States Fire Administration*)
- Nationally, over 30% of the fires that kill young children are started by children playing with matches or lighters. These fires tend to begin in the bedroom or living room, where children are often left alone to play. (*National Center for Injury Prevention and Control*)
- Children from low-income families are at greater risk for fire-related death and injury, due to factors such as lack of working smoke alarms, substandard housing, use of alternative heating sources and economic constraints on providing adequate adult supervision. (*Safe Kids*)

Fire/Burn Fatalities as Reported on CFRP Data Forms

Smoke alarm present		Fire started by	
Yes	5	Decedent	3
No	0	Other	3
Unknown	7	No one	1
Not applicable	0	Unknown	6
Not Answered	1		

Activity of person starting fire		Multiple fire injuries or deaths	
Playing	7	Yes	9
Cooking	1	No	4
Other	1		
Unknown	2		
Not applicable	2		

For structure fire, where was decedent found		Did decedent know of a fire escape plan	
Hiding	1	Yes	0
In bed	6	No	2
Close to exit	3	Unknown	11
Other	3		

Source of fire		Smoke alarm in working order	
Matches	1	Yes	5
Lighter	6	No	0
Other	3	Unknown	7
Unknown	3	Not Answered	1

Something We Can Do: Fire Prevention Awareness Day

Young children, especially those age 5 and under, are at greatest risk from home fire-related death and injury and are more than twice as likely to die in a fire than the rest of the population. Children from low-income families are at greater risk for fire-related death and injury, due to factors such as a lack of working smoke alarms, substandard housing and use of alternative heating sources. Smoke detectors, properly installed and maintained, have proven extremely effective in preventing fatalities.

When three children died in a house fire in St. Louis, CFRP panel members and other community leaders talked about finding a way to target that neighborhood for a fire safety campaign that would provide an appropriate prevention response to those tragic deaths. For the last eight years, volunteers in the region have continued to bring “Fire Prevention Awareness Day” to high-risk neighborhoods throughout the region. Working from a staging area where families can gather for food, fun and prevention education, firefighters and volunteers go door to door, installing smoke detectors or fresh batteries and providing fire safety information. Media attention for these events helps to spread the prevention message.

For information or a printed guide on “Neighborhood Fire Prevention Awareness Day” call STAT at 800-487-1626.

Prevention Recommendations:

For parents:

- Young children require vigilant supervision.
- Keep matches, gasoline, lighters and all other flammable materials locked away and out of children’s reach.
- Install smoke alarms on every level and in every sleeping area. Test them once a month. Replace batteries at least once a year.
- Plan and practice several fire escape routes from each room of the home and identify an outside meeting place. Practicing an escape plan may help children who become frightened and confused in a fire to escape to safety.

For community leaders and policy makers:

- Enact laws that require smoke detectors in new and existing housing, and make landlords responsible for ensuring that rental properties have working smoke detectors.
- Enforce building codes and conduct inspections.

For professionals:

- Smoke detector giveaway programs have proven useful when high risk areas are targeted. Implement such a program in your community.
- Implement a multi-faceted community campaign to prevent burn injuries. Target a well-defined population with a very specific message.

For Child Fatality Review Panels:

- When reviewing a child death that is the result of a residential fire, determine if the local building code requires smoke detectors in residences, and if a working smoke detector was present in the home. Use that information to develop an action plan, such as working to change the code or pursuing prosecution of a negligent landlord. Special attention should be paid to the issue of adult supervision when investigating deaths of young children in house fires.

Resources and Links:

United States Fire Administration www.usfa.fema.gov

National Safe Kids Campaign www.safekids.org

Harborview Injury Prevention and Research Center depts.washington.edu/hiprc

Drownings

**22 Missouri children drowned in 2001,
representing 10% of unintentional injury deaths.**

Representative Cases:

- **Toddlers and young children require vigilant adult supervision when outdoors near bodies of water, such as pools, creeks and streams.**

While her mother was talking to a neighbor in the yard, a 15-month-old infant drowned in the family pool. The gate to the pool had been left ajar.

A 2-year-old girl was left unattended outside for approximately ten minutes. She was found floating in the fishpond in the front yard.

- **Infants and young children require constant supervision while in a bathtub.**

A 2-year-old infant was left in the bathtub alone while her mother answered the phone. When the mother returned, she found the child submerged and unresponsive.

A 9-month-old infant was left in the bathtub with his three-year-old brother while their mother went to finish a load of laundry in the basement and load the dishwasher. Returning to the bathroom, she found the baby face down in the water.

- **Personal flotation devices should be worn in and around open water.**

While fishing in a local river, an 11-year-old boy attempted to swim to the other side. Before reaching the other side, he became tired and went under. His friends made several attempts to rescue him, but he drowned. He was not wearing a life jacket.

In the United States, drowning is the second leading cause of unintentional injury-related deaths among children, taking more than 1,000 young lives each year. In Missouri, drowning ranked fourth as a leading cause of injury death. Young children, age 4 and under have the highest drowning death rate. Of the 22 Missouri children who drowned in 2001, 9 (41%) were age four and under; 2 of those were infants under the age of 1 year.

Figure 23. Drowning Deaths by Age

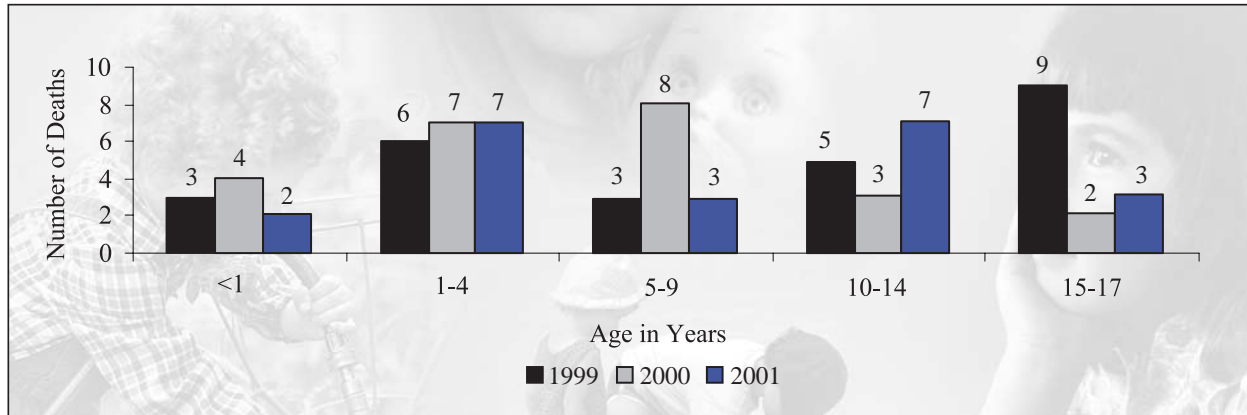


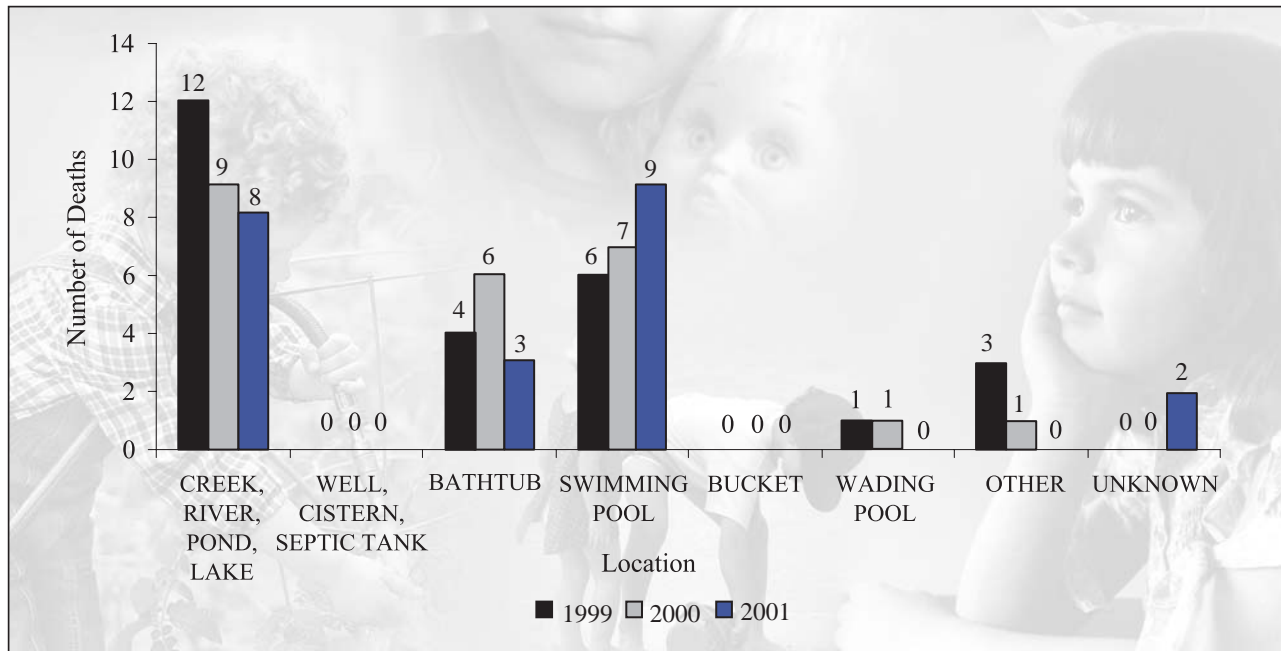
Figure 24. Drowning Deaths by Sex and Race

Sex	1999	2000	2001	Race	1999	2000	2001
Female	8	5	11	White	17	17	14
Male	18	19	11	Black	8	7	5
				Other	1	0	3
	26	24	22		26	24	22

Drownings among infants under the age of one, typically occur in residential bathtubs. Most drownings among children 1 through 4 years old occur in residential swimming pools. However, children can drown in as little as one inch of water and, therefore, are at risk of drowning in wading pools, buckets, toilets and hot tubs. Childhood drownings can happen in a matter of seconds and typically occur when a child is left unattended, or during a brief lapse in supervision. In the United States, young children (under age 4) have the highest drowning death rate.

Older children are more likely to drown in open water sites such as creeks, lakes and rivers. Of the 22 Missouri children who drowned in 2001, 7 (32%) occurred in swimming pools, 8 (36%) occurred in open water sites.

Figure 25. Location of Drownings



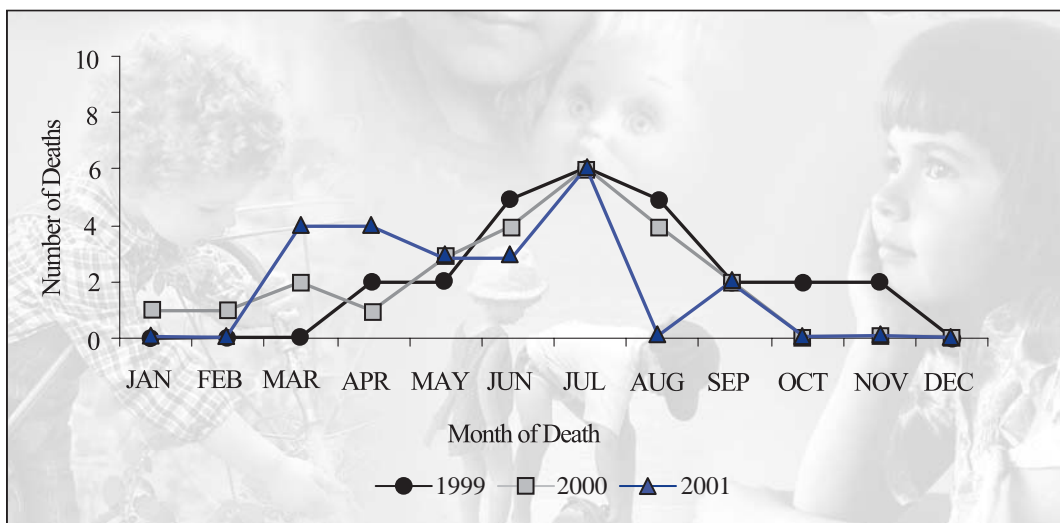
Contrary to what many people believe, drowning usually occurs quickly and silently. The scenario that a drowning person will make lots of noise while thrashing around in the water and resurface several times before actually drowning is pervasive, but entirely false.

Supervision of children in and around water is critical. Of the **15** drowning fatalities in 2001 in which supervision of the child victim was a consideration, panels found that **2** (13%) had been left unattended by their caretaker.

Use of a personal flotation device is well established as an effective means to prevent drowning deaths. Only **1** of the Missouri children who drowned in 2001 was wearing a personal flotation device.

The warm-weather months of June, July, August and September are peak months for drowning, coinciding with increased activity in swimming pools and open water sites.

Figure 26. Drowning Deaths by Month of Death



Prevention Recommendations:

For parents:

- Never leave a child unsupervised in or around water in the home or outdoors, even for a moment.
- For families with residential swimming pools: Install four-sided pool fencing with self-closing and self-latching gates. The fence should be at least four feet tall and completely separate the pool from the house and play area of the yard.
- Ensure that children always wear U.S. Coast Guard-approved personal flotation devices near open water or when participating in water sports.
- Learn CPR.

For community leaders and policy makers:

- Enact and enforce pool fencing ordinances.
- Enforce existing regulations regarding the use of personal flotation devices when boating.

For professionals:

- Parents, as well as children, should receive water safety education. This should include discussion of water hazards to children (including buckets) and the importance of vigilant supervision.
- Facilitate CPR training for parents of small children.

For Child Fatality Review Panels:

- Promote public education about drowning hazards to children and strategies to prevent drowning.

Resources and Links:

National Safe Kids Campaign www.safekids.org
 National Center for Injury Prevention www.cdc.gov/ncipc
 Harborview Injury Prevention and Research Center <http://depts.washington.edu/hiprc>
 Consumer Product Safety Commission www.cpsc.org
 Red Cross www.redcross.org
 The United States Lifesaving Association (USLA) www.usla.org

Unintentional Firearm Fatalities

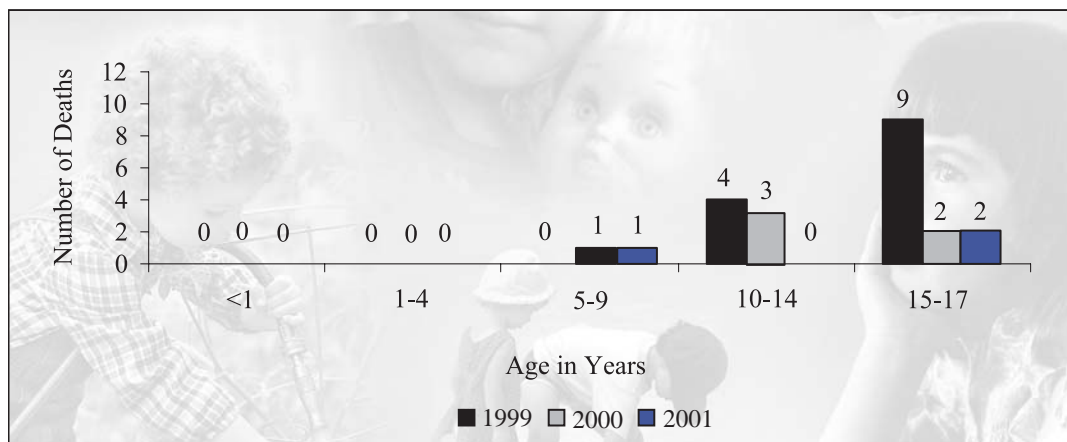
Unintentional firearm injuries were the cause of 3 deaths of Missouri children in 2001, representing 1% of unintentional injuries.

Representative Cases:

- Education should be offered in all communities about gun safety. Parents should monitor children who are handling firearms.

An 8-year-old male and his 12-year-old brother were playing with a rifle in their home. They were unsupervised. The gun went off, striking the 8-year-old in the abdomen.

Figure 27. Unintentional Firearm Fatalities by Age



Boys are far more likely to be victims of unintentional firearm deaths than girls. In the United States, nearly 80% of the children killed in unintentional shootings are male. Of the 3 unintentional firearm deaths among Missouri children in 2001, all 3 were male.

Nationally, more than 70% of unintentional firearm shootings involve handguns. Two of the 3 unintentional firearm deaths among Missouri children in 2001 involved a handgun.

Key factors in unintentional firearm deaths include:

- Most unintentional childhood shooting deaths involve guns kept in the home that have been left loaded and accessible to children, and occur when children play with loaded guns.
- Unintentional shootings among children most often occur when children are unsupervised and out of school. These shootings tend to occur in the late afternoon, during the weekend, and during summer months and the holiday season.

- Nearly two-thirds of parents with school-age children, who keep a gun in the home, believe that the firearm is safe from their children. However, one study found that when a gun was in the home, 75-80% of first and second graders knew where the gun was kept.
- Generally, before age 8, few children can reliably distinguish between real and toy guns, or fully understand the consequences of their actions.
- Children as young as age 3, are strong enough to pull the trigger of many of the handguns available in the U.S.

Prevention Recommendations:

For parents:

- Parents who own guns should always store firearms unloaded and locked up, with ammunition locked in a separate location, out of children's reach, use gun locks, load indicators and other safety devices on all firearms.
- All parents should teach children never to touch a gun and tell an adult if they find a gun.

For community leaders and policy makers:

- Enforce laws and ordinances that restrict access to and decrease availability of guns.
- Enact and enforce laws requiring new handguns be designed to minimize the likelihood of discharge by children.
- Enact laws outlining owner liability for harm to others, caused by firearms.

For professionals:

- Implement gun safety education. It is important to include public education about the hazards of firearms, as one component of an overall effort to reduce the incidence of firearm injuries and deaths.

For Child Fatality Review Panels:

- In all cases of firearm fatalities involving children, ensure that every effort is made to determine the source of the gun and consider the responsibility of the gun owner in the incident.

Resources and Links:

National Safe Kids Campaign www.safekids.org

Harborview Injury Prevention and Research Center <http://depts.washington.edu/hiprc>

Inadequate Care

Note that child deaths discussed under “Inadequate Care” are not included with Child Abuse and Neglect Fatality data reported in the section that follows. In the case of most child fatalities, negligent treatment is not the direct cause of death, but may be identified as a contributory factor by the local CFRP panel reviewing the death. Examples included delayed or inadequate medical care, malnutrition, unsanitary living conditions and lack of supervision, designated as “Inadequate Care.”

The majority of unintentional fatalities and serious injuries among young children are the result of a temporary lack of supervision or inattention at a critical moment. This is often the case when infants and toddlers drown in bathtubs and swimming pools or young children dart in front of moving vehicles. Parents and caretakers often underestimate the degree of supervision required by young children. This is complicated by the mistaken idea that young children have some sort of innate fear of dangerous situations.

CFRP panels reported **49** child fatalities in 2001 in which inadequate care contributed to the death of a child.

Inadequate care or neglect			
Apparent lack of supervision	20	Delayed medical care	4
Apparent lack of medical care	5	Inadequate medical attention	5
Failure to thrive (non-organic)	2	Out-of-hospital birth	1
Malnutrition	1	Oral Water Intoxication	1
Dehydration	6	Other	3

In addition, young children riding as unrestrained passengers, killed in motor vehicle crashes, should be included in this category. In Missouri in 2001, CFRP panels reported **37** child passenger fatalities in which the victim was known to be riding unrestrained; of those, **5** were age 4 and under, **3** were age 5-9 years and **4** were age 10-14 years.